

Chapter S: Executive Summary

S.1 Why was the S.R. 210 Project initiated?

In 2017, the Utah legislature passed Senate Bill 277, *Highway General Obligation Bonds Authorization*, which included funding for transportation improvement projects that "have a significant economic development impact associated with recreation and tourism within the state" and that "address significant needs for congestion mitigation." The bill charged the Utah Transportation Commission with prioritizing projects. The Commission ranked Little Cottonwood Canyon as a top-priority area because of its high recreation use and economic benefit from tourism to the state. With authorization from Senate Bill 277, the Utah Department of Transportation (UDOT) initiated an Environmental Impact Statement (EIS) process to identify and evaluate transportation improvement alternatives for State Route (S.R.) 210 in and near Little Cottonwood Canyon.

In March 2018, UDOT initiated the resulting S.R. 210 Project and its associated EIS to evaluate the major transportation needs in the area of and surrounding S.R. 210 (referred to as the transportation needs assessment study area or study area; see Figure S-1). The study area extends along S.R. 210 from its intersection with S.R. 190/Fort Union Boulevard in Cottonwood Heights, Utah, to its terminus in the town of Alta, Utah, and includes the Alta Bypass Road.

The Federal Highway Administration (FHWA) has assigned its responsibilities under the National Environmental Policy Act (NEPA) and other federal environmental laws to UDOT for highway projects in Utah, pursuant to 23 United States Code (USC) Section 327, in a Memorandum of Understanding (MOU). In accordance with the assignment MOU, UDOT is carrying out the environmental review process for the Little Cottonwood Canyon EIS in lieu of FHWA and serves as the lead agency in the NEPA process. By preparing this EIS, UDOT also preserves the ability to use federal-aid highway funding and obtain other FHWA approvals.

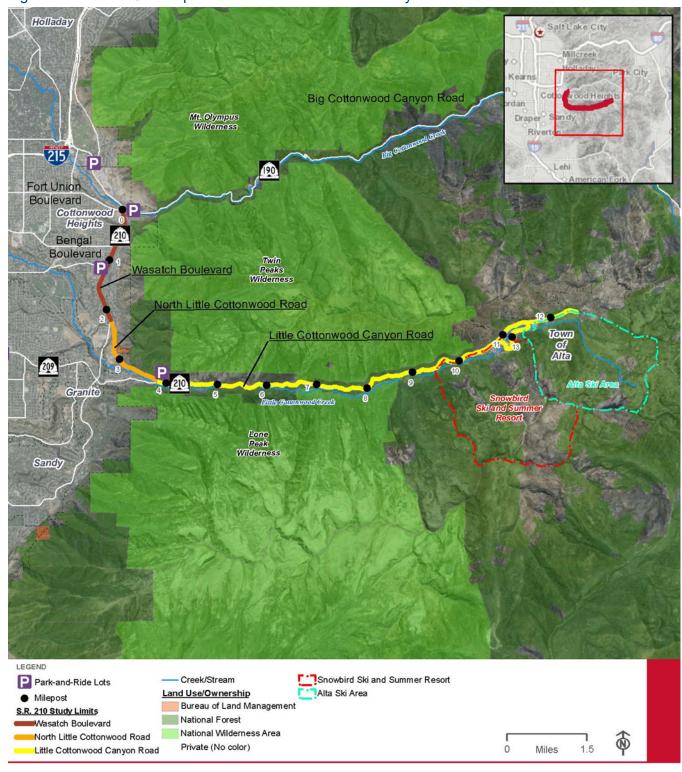


Figure S-1. S.R. 210 Transportation Needs Assessment Study Area



S.2 What is the purpose of the project?

UDOT's purpose is reflected in one primary objective for S.R. 210: to substantially improve roadway safety, reliability, and mobility on S.R. 210 from Fort Union Boulevard through the town of Alta for all users on S.R. 210.

The transportation needs in the study area are related primarily to traffic during peak periods, avalanche risk and avalanche mitigation in Little Cottonwood Canyon, multiple on-road users in constrained areas, and anticipated future increases in visitation to Little Cottonwood Canyon as a result of population growth in Utah. The following deficiencies occur on S.R. 210:

What are reliability and mobility?

Reliability refers to the degree of certainty and predictability in travel times on the transportation system. Mobility refers to the ability and level of ease to travel on a transportation-related facility.

- Decreased mobility in winter during the morning (AM) and afternoon (PM) peak travel periods related to visits to ski areas, with the greatest traffic volumes on weekends and holidays and during and after snowstorms.
- Decreased mobility on Wasatch Boulevard resulting from weekday commuter traffic.
- Safety concerns associated with avalanche hazard and traffic delays caused by the current avalanche-mitigation program in Little Cottonwood Canyon. Periodic road closures for avalanche mitigation can cause 2-to-4-hour travel delays or longer, which can cause traffic to back up in the neighborhoods at the entrance of the canyon.
- Limited parking at trailheads and ski areas that leads to roadside parking.

What are peak periods?

Peak periods are the periods of the day with the greatest amounts of traffic. For Little Cottonwood Canyon, the winter daily peak periods are tied to the ski areas opening and closing, whereas peak summer traffic occurs in the early afternoon. Peak periods are looked at by transportation analysts when examining the need for a project.

S.3 What is the history of the project?

Before the EIS process was initiated, UDOT, the Utah Transit Authority, and other agencies and planning organizations conducted studies on traffic, parking, transit use, and avalanche impacts in Little Cottonwood Canyon and on S.R. 210. Numerous studies were conducted as part of a process known as the Mountain Accord. The Mountain Accord brought together disparate interests in a collaborative manner to create a sustainable plan for preserving the central Wasatch Mountains (which include Little Cottonwood Canyon) including short- and long-term transportation recommendations that would provide sustainable and year-round access for everyone while seeking to conserve the natural ecosystem for future generations.

Although detailed alternatives were not developed under the Mountain Accord, the general recommendations included increasing transit service in winter and summer, formalizing parking to designated areas, making avalanche safety improvements, improving bicycle and pedestrian facilities, making operational traffic improvements, and considering tolling. The Mountain Accord process resulted in an Accord, which was a commitment of more than 20 organizations to proceed with a suite of actions. The Accord included an



action that future transportation solutions should increase transit use, walking, and bicycling and decrease the use of single-occupant vehicles.

On March 9, 2018, the Federal Highway Administration, on behalf of UDOT, published a Notice of Intent (NOI) to prepare the Little Cottonwood Canyon EIS for proposed improvements to S.R. 210. The NOI stated UDOT's proposal to make operations improvements, introduce demand-management measures, and facilitate implementation of improved public transit service on S.R. 210. UDOT requested public and agency input to the scope of the EIS during a 57-day scoping period from March 9 to May 4, 2018.

After reviewing scoping comments and the need for the project, UDOT revised the scope of this EIS to focus on enhancing safety and improving wintertime mobility through avalanche mitigation, improving parking at existing U.S. Department of Agriculture (USDA) Forest Service trailheads, and making roadway improvements to Wasatch Boulevard from S.R. 190/Fort Union Boulevard to North Little Cottonwood Road. The Federal Highway Administration published a revised NOI on behalf of UDOT on March 5, 2019, describing UDOT's revised scope for the project and initiating a new scoping process.

During that second scoping period, the Wasatch Front Regional Council released its 2019–2050 *Wasatch Front Regional Transportation Plan* (RTP), which includes a project to widen Little Cottonwood Canyon Road from two to three lanes from Wasatch Boulevard to the end of the canyon. The 2019–2050 RTP also includes special bus service in Little Cottonwood Canyon. With the addition of these projects, UDOT revised the scope of the Little Cottonwood Canyon EIS, adding roadway capacity and mobility improvements to the list of project elements, and a new NOI was released on May 15, 2019. With the release of the new NOI, the second scoping period was extended to 102 days: from March 5 to June 14, 2019.

The Draft EIS was released for public review and comment on June 25, 2021, followed by a 70-day public review period that ended on September 3. 2021. On December 10, 2021, UDOT released for a 30-day public review and comment period a Revised Draft Chapter 26, Section 4(f) and Section 6(f) Evaluation.

S.4 Who is leading the project?

UDOT is the lead agency for the S.R. 210 Project. As the lead agency, UDOT is responsible for preparing the S.R. 210 EIS. The environmental review, consultation, and other actions required by applicable federal environmental laws for this proposed project are being, or have been, carried out by UDOT pursuant to 23 USC Section 327 and a Memorandum of Understanding, and executed by the Federal Highway Administration and UDOT.

The U.S. Environmental Protection Agency, the USDA Forest Service, the U.S. Army Corps of Engineers, the Utah Transit Authority, and the Salt Lake City Department of Public Utilities are involved as cooperating agencies in the development of this EIS. For more information, see Section 1.1, *Introduction*, in Chapter 1, *Purpose and Need*.



S.5 What alternatives were considered for the project?

Figure S-2 presents an overview of the alternatives development and screening process. The alternatives development and screening process is documented in the *Draft Alternatives Development and Screening Report* and the *Draft Alternatives Development and Screening Report Addendum* (see Section 2.2, *Alternatives Development and Screening Process*, in Chapter 2, *Alternatives*).

Based on the screening process, UDOT determined that five primary action alternatives with sub-alternatives were reasonable alternatives for detailed evaluation in this EIS. The five primary alternatives are:

- Enhanced Bus Service Alternative
- Enhanced Bus Service in Peak-period Shoulder Lane Alternative
- Gondola Alternative A (Starting at Canyon Entrance)
- Gondola Alternative B (Starting at La Caille)
- Cog Rail Alternative (Starting at La Caille)

Table S-1 provides an overview of the five primary action alternatives and sub-alternatives. Figure S-3 through Figure S-7 provide a graphical overview of each primary alternative.

Preliminary Evaluation of Concepts/Alternatives

Level 1 Screening: Purpose and Need

Preliminary Engineering

Level 2 Screening: Environmental and Regulatory Impacts

Refine
Engineering

Figure S-2. Overview of the S.R. 210 Alternatives

Development and Screening Process



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Table S-1. Primary Alternatives and Sub-alternatives Considered in the Final EIS

	Purpose Element and Associated Options									
		Purpose Element: Improve Mobility	Purpose Element: Improve Reliability and Safety							
Primary Alternative	Wasatch Boulevard Sub-alternatives	S.R. 210 from Fort Union Boulevard to Alta Options	Avalanche Mitigation Sub-alternatives	Trailhead Parking Sub-alternatives ^b	Winter Roadside Parking Sub-alternative					
Enhanced Bus Service Alternative	 Imbalanced-lane Alternative Five-lane Alternative 	 Enhanced bus service with mobility hubs at the gravel pit^a and 9400 South/Highland Drive Winter point-to-point bus service from each mobility hub directly to the ski resorts No summer bus service 24 buses per hour in the peak hour About 1,008 people on buses in the peak hour 2,500 new parking spaces divided between two mobility hubs at the gravel pit and 9400 South and Highland Drive Bus priority on Wasatch Boulevard Tolling or other management strategies such as no single-occupant vehicles during peak periods 	 Snow sheds with berms Snow sheds and realigned road with no berms 	 Trailhead parking improvements with no roadside parking within 0.25 mile Trailhead parking improvements with no roadside parking from canyon entrance to Snowbird Entry 1 No trailhead parking improvements with no roadside parking from canyon entrance to Snowbird 	Elimination of winter roadside parking on S.R. 210 adjacent to the ski resorts					
Enhanced Bus Service in Peak-period Shoulder Lane Alternative	 Imbalanced-lane Alternative Five-lane Alternative 	 Enhanced bus service with mobility hubs at the gravel pit^a and 9400 South/Highland Drive Winter point-to-point bus service from each mobility hub directly to the ski resorts No summer bus service 24 buses per hour in the peak hour About 1,008 people on buses in the peak hour 2,500 new parking spaces divided between two mobility hubs at the gravel pit and 9400 South and Highland Drive Bus priority on Wasatch Boulevard Tolling or other management strategies such as no single-occupant vehicles during peak periods Winter bus-only peak-period shoulder lanes from the North Little Cottonwood Road/Wasatch Boulevard intersection to the Alta Bypass Road; peak-period shoulder lanes would be cyclist and pedestrian facilities in summer 	 Snow sheds with berms Snow sheds and realigned road with no berms 	 Trailhead parking improvements with no roadside parking within 0.25 mile Trailhead parking improvements with no roadside parking from canyon entrance to Snowbird Entry 1 No trailhead parking improvements with no roadside parking from canyon entrance to Snowbird 	Elimination of winter roadside parking on S.R. 210 adjacent to the ski resorts					
Gondola Alternative A (Starting at Canyon Entrance)	Imbalanced-lane Alternative Five-lane Alternative	 Gondola from the entrance of Little Cottonwood Canyon to Alta ski resort Gondola starting at the gondola station at the entrance of Little Cottonwood Canyon with stops at Snowbird ski resort and Alta ski resort only About 30 gondola cabins per hour About 1,050 people on gondolas in the peak hour 2,500 new parking spaces divided between two mobility hubs at the gravel pit and 9400 South and Highland Drive Enhanced bus service from the mobility hubs to the gondola base station at the entrance of Little Cottonwood Canyon (there would be no parking at the base station) Bus priority on Wasatch Boulevard Tolling or other management strategies such as no single-occupant vehicles during peak periods Summer gondola service 	 Snow sheds with berms Snow sheds and realigned road with no berms 	 Trailhead parking improvements with no roadside parking within 0.25 mile Trailhead parking improvements with no roadside parking from canyon entrance to Snowbird Entry 1 No trailhead parking improvements with no roadside parking from canyon entrance to Snowbird 	Elimination of winter roadside parking on S.R. 210 adjacent to the ski resorts					

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Table S-1. Primary Alternatives and Sub-alternatives Considered in the Final EIS

	Purpose Element and Associated Options								
		Purpose Element: Improve Mobility	Purpose Element: Improve Reliability and Safety						
Primary Alternative	Wasatch Boulevard Sub-alternatives	S.R. 210 from Fort Union Boulevard to Alta Options	Avalanche Mitigation Sub-alternatives	Trailhead Parking Sub-alternatives ^b	Winter Roadside Parking Sub-alternative				
Gondola Alternative B (Starting at La Caille)	 Imbalanced-lane Alternative Five-lane Alternative 	 Gondola from La Caille to Alta ski resort Gondola starting about 0.75 mile north west from the entrance of Little Cottonwood Canyon with stops at Snowbird ski resort and Alta ski resort only About 30 gondola cabins per hour About 1,050 people on gondolas in the peak hour 2,500-space parking space at the La Caille base station Tolling or other management strategies such as no single-occupant vehicles during peak periods Summer gondola service 	 Snow sheds with berms Snow sheds and realigned road with no berms 	 Trailhead parking improvements with no roadside parking within 0.25 mile Trailhead parking improvements with no roadside parking from canyon entrance to Snowbird Entry 1 No trailhead parking improvements with no roadside parking from canyon entrance to Snowbird 	Elimination of winter roadside parking on S.R. 210 adjacent to the ski resorts				
Cog Rail Alternative (Starting at La Caille)	 Imbalanced-lane Alternative Five-lane Alternative 	 Cog rail from La Caille to Alta ski resort Cog rail starting about 0.75 mile northwest from the entrance of Little Cottonwood Canyon with stops at Snowbird ski resort and Alta ski resort only Service every 15-minutes during the peak hours and every 30 minutes during the off-peak hours About 1,000 people on cog rail trains in the peak hour 2,500-space parking space at the La Caille base station Tolling or other management strategies such as no single-occupant vehicles during peak periods Summer cog rail service 	 Snow sheds with berms Snow sheds and realigned road with no berms Snow sheds in upper canyon 	 Trailhead parking improvements with no roadside parking within 0.25 mile Trailhead parking improvements with no roadside parking from canyon entrance to Snowbird Entry 1 No trailhead parking improvements with no roadside parking from canyon entrance to Snowbird 	Elimination of winter roadside parking on S.R. 210 adjacent to the ski resorts				

The gravel pit is located on the east side of Wasatch Boulevard between 6200 South and Fort Union Boulevard.
 Trailhead improvements would include the existing Gate Buttress, Lisa Falls, and White Pine Trailheads and a new location at the Bridge Trailhead.

Figure S-3. Enhanced Bus Service Alternative

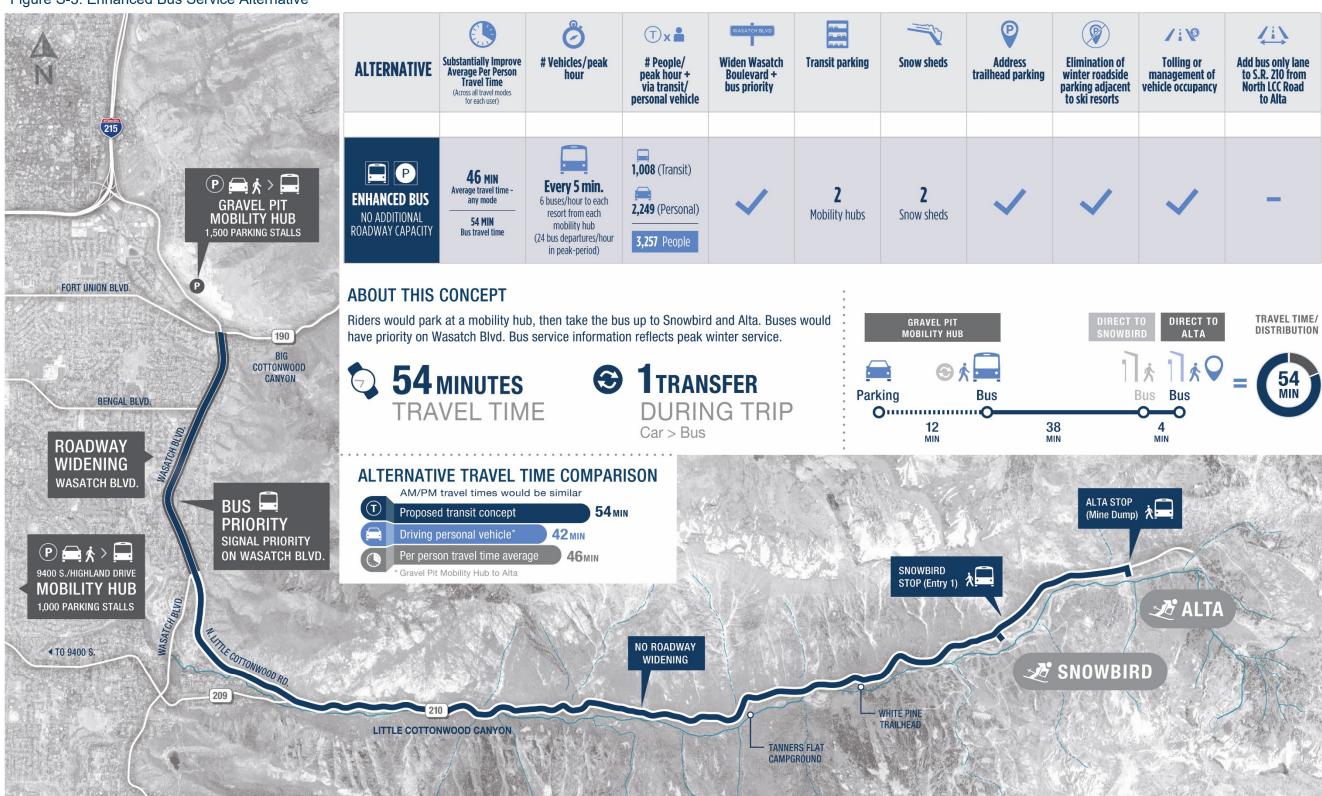


Figure S-4. Enhanced Bus Service in Peak-period Shoulder Lane Alternative

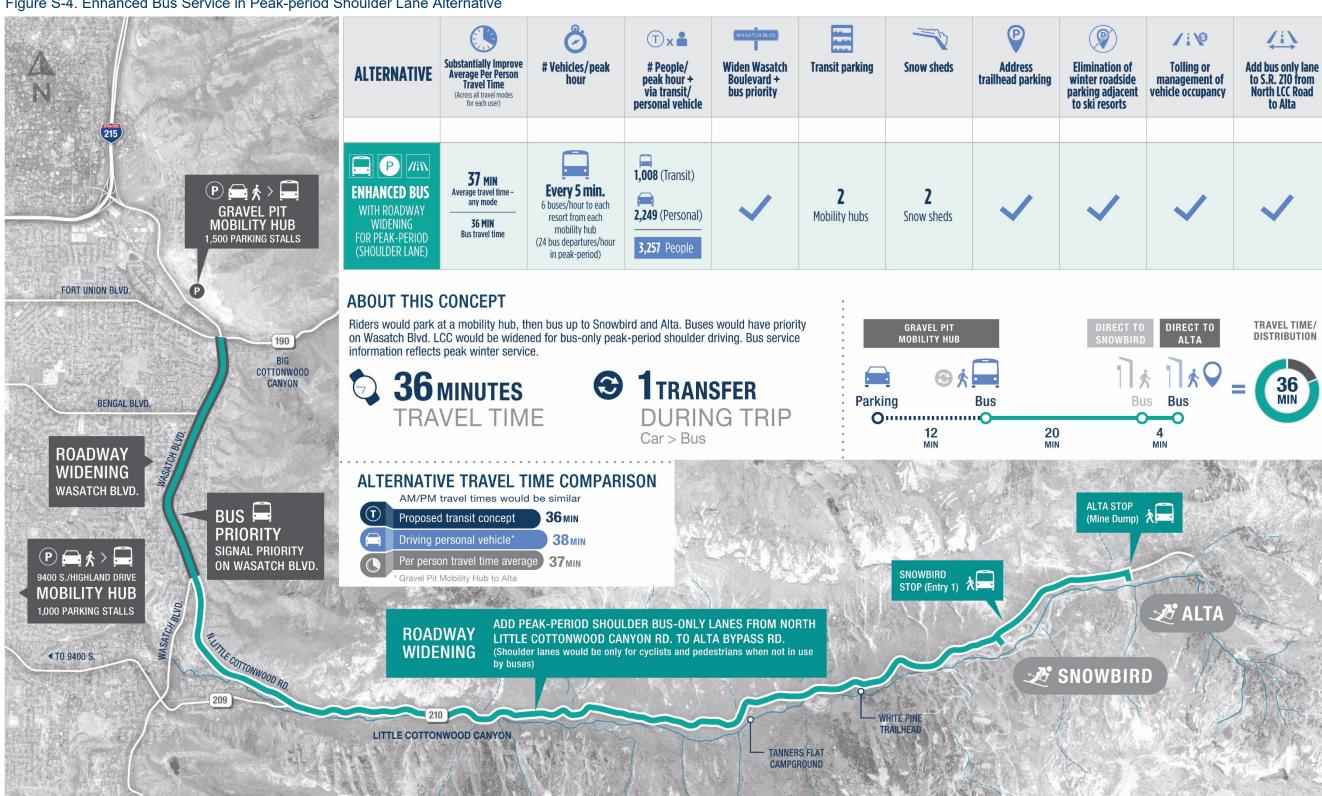




Figure S-5. Gondola Alternative A (Starting at Canyon Entrance) /i/ Tx / i V9 0 Substantially Improve Average Per Person # People/ peak hour + Transit parking Add bus only lane to S.R. 210 from # Vehicles/peak Widen Wasatch **Address Elimination of Tolling or** Snow sheds **ALTERNATIVE** trailhead parking Boulevard + winter roadside management of parking adjacent to ski resorts via transit/ bus priority vehicle occupancy **North LCC Road** (Across all travel modes for each user) personal vehicle to Alta **6 P** 4 **1,050** (Transit) **46** MIN **Bus to base** P () > (**GONDOLA A** Average travel time every 5 min. GRAVEL PIT MOBILITY HUB 1,500 PARKING STALLS any mode **2,249** (Personal) Mobility hubs Gondola Snow sheds MOBILITY HUBS 63 MIN every 2 min. Gondola travel time **3,299** People (30 gondola departures ROADWAY CAPAC per hour) FORT UNION BLVD. **ABOUT THIS CONCEPT** ALTA STATION TRAVEL TIME/ GRAVEL PIT GONDOLA BASE STATION Riders would park at a mobility hub and take a bus to the gondola base station at the mouth of the canyon, MOBILITY HUB DISTRIBUTION then take the gondola directly to Snowbird, then to Alta. Buses would have priority on Wasatch Blvd. Gondola service information reflects peak winter service. O A CO 63 MIN COTTONWOOD CANYON **63** MINUTES 2 TRANSFERS **Parking** Gondola Gondola Gondola Bus BENGAL BLVD. TRAVEL TIME **DURING TRIP** 0..... 13 MIN 12 MIN 24 MIN 10 MIN Car > Bus > Gondola ROADWAY WIDENING ALTERNATIVE TRAVEL TIME COMPARISON WASATCH BLVD. AM/PM travel times would be similar BUS 🗐 GONDOLA **63** MIN Proposed transit concept ALTA STATION (Near Alta Lodge) **PRIORITY** Driving personal vehicle* 38 MIN SIGNAL PRIORITY Per person travel time average ON WASATCH BLVD. 9400 S./HIGHLAND DRIVE **MOBILITY HUB** 1,000 PARKING STALLS 4 🖈 ALTA **GONDOLA BASE STATION** ◀ TO 9400 S. GONDOLA ANGLE STATION 🥕 SNOWBIRD WHITE PINE TRAILHEAD LITTLE COTTONWOOD CANYON **GONDOLA** TANNERS FLAT SNOWBIRD STATION CAMPGROUND (Along Bypass Road)

Figure S-6. Gondola Alternative B (Starting at La Caille) Ö Ūx≟ /: V Elimination of winter roadside parking adjacent to ski resorts Add bus only lane to S.R. 210 from North LCC Road to Alta # People/ peak hour + via transit/ Substantially Improve Average Per Person Travel Time Widen Wasatch Boulevard + bus priority # Vehicles/peak **Transit parking** Snow sheds Address trailhead parking Tolling or ALTERNATIVE management of vehicle occupancy **6** P **1,050** (Transit) 2,500 **43** min Widen GONDOLA B (FROM LA CAILLE) Wasatch Average travel time any mode Gondola 2 stall parking **Boulevard** 2,249 (Personal) every 2 min. structure at Snow sheds without bus NO ADDITIONAL ROADWAY CAPACITY 55 MIN base station (30 gondola departures priority **3,299** Peop per hour) **ABOUT THIS CONCEPT** FORT UNION BLVD. TO BASE STATION TRAVEL TIME/ Riders would park at a parking structure at the gondola base station and then take the gondola directly to Snowbird, then to Alta. Gondola service information reflects peak winter service. 55 MIN **1** TRANSFER **55** MINUTES FORT UNION BLVD. Gondola Gondola Car **Parking** Gondola TRAVEL TIME **DURING TRIP** 0..... 12 MIN 27 MIN 10 Car > Gondola 6 MIN COTTONWOOD CANYON ALTERNATIVE TRAVEL TIME COMPARISON BENGAL BLVD. AM/PM travel times would be similar Proposed transit concept **55** MIN ROADWAY Driving personal vehicle* 38_{MIN} WIDENING Per person travel time average 43_{MIN} WASATCH BLVD. GONDOLA
ALTA STATION
(Near Alta Lodge) ALT# **GONDOLA** ANGLE STATION GONDOLA GUNDOLA ANGLE STATION **◀ TO 9400 S.** NO LOADING/UNLOADING SNOWBIRD NO LOADING/UNLOADING P 🚘 🏌 죮 面太 La Caille GONDOLA BASE STATION LITTLE COTTONWOOD CANYON **GONDOLA** TANNERS FLAT 2,500 PARKING STALLS **SNOWBIRD STATION** CAMPGROUND (Along Bypass Road)

September 2022
Utah Department of Transportation

Figure S-7. Cog Rail Alternative (Starting at La Caille) Ö Tx 1:10 **/!**\ Elimination of winter roadside parking adjacent to ski resorts Add bus only lane to S.R. 210 from North LCC Road to Alta # People/ peak hour + via transit/ Widen Wasatch Boulevard + bus priority Tolling or management of vehicle occupancy Substantially Improve Average Per Person Travel Time # Vehicles/peak hour Address trailhead parking Transit parking Snow sheds ALTERNATIVE 1,050 (Transit) P Widen 2,500 43 MIN Wasatch COG RAIL (FROM LA CAILLE) 3 stall parking Train **Boulevard 2,249** (Personal) structure at Snow sheds without bus every 15 min. 55 MIN Cog Rail travel time priority base station NO ADDITIONAL ROADWAY CAPACITY (4 train departures **3,299** People per hour) **ABOUT THIS CONCEPT** TRAVEL TIME/ DISTRIBUTION COG RAIL BASE STATION Riders would park at a parking structure at the cog rail base station and then take the cog rail directly to Snowbird, then to Alta. Cog rail service information reflects peak winter service. **55** MINUTES **1** TRANSFER FORT UNION BLVD. Car **Parking** Cog Rail TRAVEL TIME **DURING TRIP** 0....0 12 MIN 27 MIN 10 6 MIN Car > Cog rail COTTONWOOD CANYON **ALTERNATIVE TRAVEL TIME COMPARISON** BENGAL BLVD. AM/PM travel times would be similar Proposed transit concept **55** MIN **ROADWAY** Driving personal vehicle* 38 MIN WIDENING Per person travel time average 43_{MIN} WASATCH BLVD. ALTA STATION (Near Alta Lodge) **SNOWBIRD STATION** 🏂 ALTA **◆** TO 9400 S. 🥕 SNOWBIRD La Caille **COG RAIL BASE STATION** LITTLE COTTONWOOD CANYON 2.500 PARKING STALLS TANNERS FLAT CAMPGROUND



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The sub-alternatives that help the primary alternatives achieve the project goals are:

- S.R. 210 Wasatch Boulevard Alternatives
 - Imbalanced-lane Alternative
 - Five-lane Alternative
- Mobility Hubs Alternative (for the locations of the mobility hubs, see Figure S-3 through Figure S-5 above)
 - Gravel Pit
 - 9400 South and Highland Drive
- Avalanche Mitigation Alternatives
 - Snow Sheds with Berms Alternative
 - Snow Sheds with Realigned Road Alternative
- Trailhead Parking Alternatives
 - Trailhead Parking Improvements and No S.R. 210 Roadside Parking within ¼ Mile of Trailheads Alternative
 - Trailhead Parking Improvements and No Roadside Parking from S.R. 209/S.R. 210 Intersection to Snowbird Entry 1 Alternative
 - No Trailhead Parking Improvements and No Roadside Parking from S.R. 209/S.R. 210
 Intersection to Snowbird Entry 1 Alternative
- No Winter Parking Alternative

Figure S-8 through Figure S-11 show the general concepts of the sub-alternatives (mobility hubs are shown in Figure S-3 through Figure S-5 above) that would be part of the primary alternatives.

Figure S-8. Wasatch Boulevard Sub-alternatives

Imbalanced-lane Alternative PROPOSED CENTER OF MEDIAN PROPOSED CENTER OF MEDIAN 2.5' 10' 12' 12' 14' 12' 10' 7' 10' PARK SHARED USE PATH SHOULDER SHOULDER SHOULDER PARK SHARED USE PATH SHOULDER SHOULDER SHOULDER SHOULDER PROPOSED CENTER OF MEDIAN NORTHBOUND TRAFFIC LANE SHOULDER SHOULDER SHOULDER PARK SHARED USE PATH

Five-lane Alternative

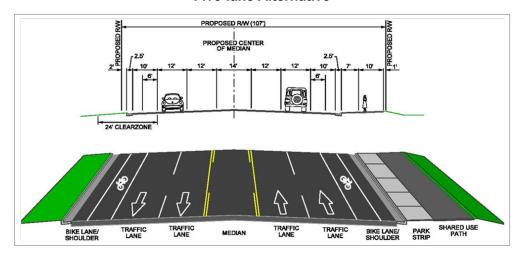


Figure S-9. Avalanche Mitigation Sub-alternatives

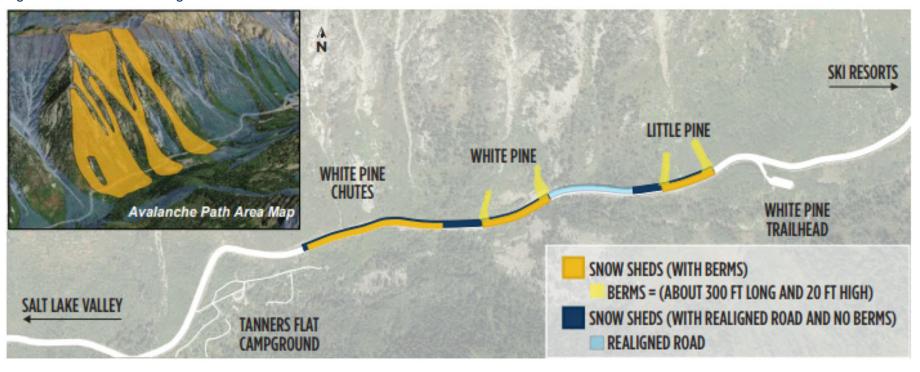
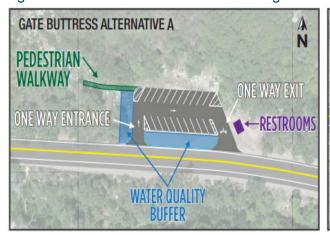


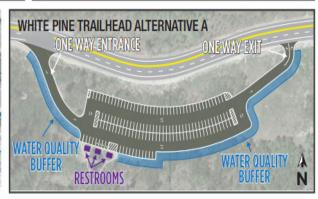
Figure S-10. Location of Trailhead Parking Alternative Improvements











Draper Sandy Snowbird Enty 1 Snowbird Enty 2 Alta Wildcat Entrance Snowbird Enty 3 No Winter Parking Areas Snowbird Ski and Summer Resort Alta Ski Area 2,000 Feet

Figure S-11. No Winter Parking Alternative – Eliminated Parking Areas



S.6 Would tolling in Little Cottonwood Canyon be required?

Along with improved transit alternatives (bus, gondola, or cog rail), a toll or vehicle-occupancy restriction (such as a ban on single-occupant vehicles) would be implemented during the ski season during peak hours (7 AM to 10 AM) on busy ski days to encourage users of personal vehicles to switch to transit. Tolling and vehicle-occupancy restrictions would be focused on the area of S.R. 210 around the ski resorts (starting just before Snowbird Entry 1) that would be served by the proposed transit service in the action alternatives. Residents of Little Cottonwood Canyon, drivers of service vehicles, and potentially resort employees would likely be exempt from paying the toll or observing the vehicle-occupancy restriction. For more information, see Section 2.4, *Travel Demand Management Strategies Considered as Part of the Action Alternatives*, in Chapter 2, *Alternatives*.

S.7 How much would the alternatives cost?

To help compare the action alternatives, UDOT developed preliminary cost estimates (Table S-2) and the yearly cost to operate and maintain each alternative. These estimates are based on the preliminary engineering conducted and include the total project cost for construction, right-of-way acquisition, utility relocation, design engineering, and equipment to operate the alternative, equipment such as buses, gondola cabins, and cog rail vehicles. The cost estimates are based on 2020 dollars. The actual cost of construction would change depending on the year of construction, the cost is expected to change proportionally for all alternatives.¹

S.8 What impacts would the project alternatives have?

Table S-3 summarizes the environmental impacts of the No-Action and primary action alternatives. Because the impacts depend on which sub-alternative is selected, a range of impacts from low to high is provided. For detailed information about the environmental impacts of the alternatives, see the individual resource chapters of this EIS.²

¹ See Section S.9, Which primary and sub-alternatives does UDOT prefer?, regarding the cost of phased implementation.

² See Section S.9, Which primary and sub-alternatives does UDOT prefer?, for a discussion of the impacts of phasing.



Table S-2. Preliminary Construction Cost Estimate and Operation and Maintenance Cost In 2020 dollars

Alternative	Cost Estimate (millions \$)	Winter Operation and Maintenance Cost / Summer Operation and Maintenance Cost (millions \$)
Primary Alternative ^{a,b}		
Enhanced Bus Service	338–355	14.0 / 0
Enhanced Bus Service in Peak-period Shoulder Lane	493–510	11.0 / 0
Gondola Alternative A	554–561	9.5 / 5.0
Gondola Alternative B	533–550	4.0 / 3.0
Cog Rail Alternative	1,051-1,064	3.4 / 2.2
Sub-alternatives Part of Primary Alternatives		
Wasatch BoulevardImbalanced-lane AlternativeFive-lane Alternative	59 62	
 Mobility Hubs Enhanced Bus Service and Gondola A Alternatives 9400 South and Highland Drive Gravel pit (includes interchange on Wasatch Boulevard) Gondola B and Cog Rail Alternatives La Caille parking structure 	21 78 52	
Avalanche Mitigation Enhanced Bus Service and Gondola A and B Alternatives Snow Sheds with Berms Snow Sheds with Realigned Road Cog Rail Alternative Mid-canyon Snow Sheds with Berms Mid-canyon Snow Sheds with Realigned Road Upper-canyon snow sheds	72 86 131 141 109	Operation and maintenance cost is not provided since it would be the same for all primary alternatives.
Trailhead Parking Enhanced Bus Service and Gondola A and B Alternatives Improvements and no parking within ¼ mile Improvements and no parking in Little Cottonwood Canyon No improvements and no parking Cog Rail Alternative Improvements and no parking within ¼ mile Improvements and no parking in Little Cottonwood Canyon No improvements and no parking No Winter Roadside Parking Tolling Infrastructure	5.8 5.8 0.0 2.0 2.0 0.0 0.0	

^a The cost of the primary alternatives includes the alternatives the sub-alternatives and provides a range since each cost varies depending on the sub-alternative selected. Cost estimates also include noise walls and tolling infrastructure. Operation and maintenance cost includes total operations for the alternative, such as buses, personnel, maintenance, and snow removal for the peakperiod shoulder lanes and Cog Rail Alternative. The enhanced bus service alternatives will not operate during the summer.

b The cost of all alternatives includes new buses, signal priority at intersections, fare-collection systems, communication equipment, and a bus maintenance and storage facility except for Gondola Alternative B and the Cog Rail Alternative.

Table S-3. Environmental Impacts of the No-Action and Primary Action Alternatives

Impact Category	Unit	No-Action Alternative	Enhanced Bus Service Alternative	Enhanced Bus Service in Peak-period Shoulder Lane Alternative	Gondola Alternative A	Gondola Alternative B	Cog Rail Alternative
Land converted to alternative use ^a	Acres	0	110-115	196-201	197-202	206-211	209-214
Potential residential relocations	Number	0	1	1	1	1	1
Potential business relocations	Number	0	0	0	0	0	0
Recreation areas affected	Number	0	2	4	3	3	5
Community facilities affected	Number	0	1	1	1	1	1
Environmental justice impacts	Yes/no	No	No	No	No	No	No
Economic impacts	Yes/no	No	No	No	No	No	No
Existing Forest Service trails affected	Number	0	0	1	1	1	1
Climbing resources (existing boulders affected)	Number	0	0	41	5	2	116
Air quality impacts above regulations	Yes/no	No	No	No	No	No	No
Receptors with modeled noise levels above criteria	Number	173	213–230	216–233	213–230	213–230	213–230
Increase in impervious surface ^b	Acres	0	13.2–16.8	35.2–38.8	14.8–18.4	22.6–26.2	59.2–62.8
Water quality standards exceeded ^c	Yes/no	No	No	No	No	No	No
Wildlife habitat impacted	Acres	0	11–15	44–48	13–17	24–28	87–91
Threatened and endangered species	Yes/no	No	No	No	No	No	No
Impacts to waters of the United Statesd	Acres	0	0	0	0	0	0.01
Impacts to intermittent, perennial, and ephemeral streams	Acres	0	0.03–0.17	0.32-0.46	0.03-0.17	0.03-0.17	0.35–0.49
Impacts to Riparian Habitat Conservation Areas	Acres	0	0.14-0.83	1.58–2.18	0.14-0.83	0.14-0.83	0.75–1.44
Adverse impacts to cultural resources	Number	0	2	2	2	2	2
Hazardous waste sites affected	Number	0	1	2	1	2	2

(continued on next page)



Table S-3. Environmental Impacts of the No-Action and Primary Action Alternatives

Impact Category	Unit	No-Action Alternative	Enhanced Bus Service Alternative	Enhanced Bus Service in Peak-period Shoulder Lane Alternative	Gondola Alternative A	Gondola Alternative B	Cog Rail Alternative
Floodplain impacts	Acres	0	1.18–1.32	2.1–2.2	1.5–1.6	2.1–2.3	1.5–1.6
Visual change ^e (primary alternative/ supporting element)	Category	None	Negligible/high	High/high	High/high	High/high	High/high
Section 4(f) uses (with greater–than– de minimis impact) ^f	Number	0	1	1	1	1	2

- a Land use converted acres for the gondola alternatives includes the area under the aerial easement. However, the area under the aerial easement would not change the land use or activities under the easement since it would still be available for recreation uses.
- ^b Range captures the increase in impervious surface from the Wasatch Boulevard Imbalanced-lane Alternative or the Five-lane Alternative. Range does not include new impervious surface at the gravel pit or 9400 South and Highland Drive mobility hubs. These locations were not included in the quantitative water quality analysis because they are outside the Little Cottonwood Creek watershed. Range includes the impervious surface at the gondola and cog rail base stations at La Caille.
- c Based on water quality modeling, numeric water quality standards in Little Cottonwood Creek would not be exceeded for any alternative for 80% of the storm events.
- d The impact would be to a seep from the upper-canyon snow sheds as part of the Cog Rail Alternative.
- Visual change includes landscape character change at key observation points. The visual change is for the primary alternative and supporting elements such as snow sheds.
- The Section 4(f) use with greater–than–*de minimis* impact would occur with the avalanche mitigation sub-alternatives under all primary alternatives. Section 4(f) is an element of law and U.S. Department of Transportation regulation that requires a project to avoid the use of eligible or potentially eligible historic properties and significant publicly owned parks, recreation areas, and wildlife or waterfowl refuges unless there is no feasible and prudent alternative to such use or unless the use would have a *de minimis* impact. For historic properties, a *de minimis* impact means that UDOT has determined, in accordance with 36 Code of Federal Regulations Part 800, that the historic property in question would not be affected by the project or that the project would have "no adverse effect" on the historic property. For recreation areas, a *de minimis* impact is one that would not adversely affect the features, attributes, or activities that qualify the property for protection under Section 4(f). A temporary occupancy is an occupancy of land so minimal as to not constitute a use within the meaning of Section 4(f). For more information, see Chapter 26, Section 4(f) and Section 6(f) Evaluation.



S.9 Which primary and sub-alternatives does UDOT prefer?

Based on the evaluation in the Final EIS and considering public comments, UDOT has identified its preferred primary alternative as **Gondola Alternative B (Starting at La Caille).** UDOT also proposes, as part of the preferred alternative, a phased implementation of components of the Enhanced Bus Service Alternative until funding is obtained and construction of Gondola Alternative B is complete.

UDOT prefers Gondola Alternative B primarily because it would provide the best overall reliability. Based on public input, and recognizing that safety, mobility, and reliability are issues on S.R. 210 today, and that it Caille) with phased implementation of components of the Enhanced Bus Service Alternative as its preferred alternative.

Which primary alternative

UDOT has identified Gondola

Alternative B (Starting at La

does UDOT prefer?

could take years to obtain funding and complete construction of Gondola Alternative B, UDOT has also determined that the preferred alternative should include implementing components of the Enhanced Bus Service Alternative, pending completion of Gondola Alternative B.

UDOT also identified the following sub-alternatives as the supporting elements of the primary preferred alternative:

- Five-lane Alternative (Wasatch Boulevard alternative)
- Snow Sheds with Realigned Road Alternative (avalanche mitigation alternative)
- Trailhead Improvements and No Roadside Parking within ¼ Mile Alternative (trailhead parking alternative)
- No Winter Parking Alternative

Based on the analysis presented in this EIS, UDOT has identified **Gondola Alternative B** (Starting at La Caille) as its preferred primary alternative for providing the best overall reliability and improving overall mobility, while considering environmental impacts.

For implementation of the preferred alternative, UDOT also considered improving mobility in the short term, funding, and construction timing. UDOT has determined that the preferred alternative should include the implementation of components of the Enhanced Bus Service Alternative as a first phase. Phased implementation would consist of improved and increased bus service, which requires constructing mobility hubs at the gravel pit and at 9400 South and Highland Drive and bus stops at the Snowbird and Alta ski resorts. The bus service and support infrastructure (mobility hubs and resort bus stops) would be smaller than described in the EIS for the Enhanced Bus Service Alternative. The Enhanced Bus Service Alternative described in the Final EIS consists of the full buildout of the alternative to address mobility demands in 2050 and would require more buses and parking. With the preferred alternative, bus service would be scaled to meet demand until the Gondola Alternative B infrastructure is completed. UDOT would start with a reduced number of buses since the bus service would likely start with 10-to-15-minute service frequency (instead of a 5-minute service needed to meet the demands in 2050). UDOT would also construct the bus stops for the Snowbird and Alta resorts. To incentivize transit use, tolling would be implemented with the start of the phased bus service as described for all alternatives in the Draft and Final EISs.



For more information about why UDOT identified the preferred alternative, see Section 2.6.9, *Basis for Identifying the Preferred Alternative*, in Chapter 2, *Alternatives*. For more information on the phased approach, see Section 2.6.9.1.2, *Implementation of the Preferred Alternative*, in Chapter 2, *Alternatives*.

This phased approach to infrastructure improvements for Little Cottonwood Canyon would add a minor amount of additional impacts to some impact categories. The impacts of phased implementation of components of the Enhanced Bus Service Alternative are not substantially different than those reported in Table S-3. With mobility hubs and resort bus stops, there would be an additional 35 acres of land converted to transportation use; however, existing land uses are compatible with these features. The additional infrastructure required would increase the overall construction footprint and could increase the potential for construction-related impacts. The Alta bus stop would impact an archeological site (Town of Alta site), which would also be disturbed by Gondola Alternative B, both of which would result in an adverse effect on the site, and would be subject to the same mitigation measures. For additional discussion of impacts related to phased implementation, see Section 2.6.9.1.2, *Implementation of the Preferred Alternative*, in Chapter 2, *Alternatives*.

UDOT estimates that the phased implementation of components of the Enhanced Bus Service Alternative would add up to about \$110 million to the capital cost of Gondola Alternative B as reported in Table S-2. The estimated annual operations and maintenance cost for temporary bus service would be about \$7 million per year.

S.10 Who will decide which primary and sub-alternatives are selected for construction?

Following publication of this Final EIS and a public review and comment period, UDOT will identify the primary alternative and sub-alternatives that it has selected for implementation. UDOT's decision will be documented in a Record of Decision supported by information in the Final EIS, taking into account environmental and technical information, community and agency input, and other relevant information.

S.11 When and how would the selected alternative be constructed?

Currently, only partial funding has been identified for construction. Typically, in order to take into account the specifics of the alternative that is selected in the Record of Decision for a project, UDOT does not identify funding for construction until the EIS process has been completed. The selected primary alternative for the S.R. 210 Project would be constructed based on available funding. If only partial funding is allocated for construction, UDOT could construct portions of the selected alternative based on the amount of the funding while considering safety and operational benefits.

The S.R. 210 Project is included in the Wasatch Front Regional Council's 2019–2050 *Long-range Transportation Plan* for construction of the Wasatch Boulevard alternatives in Phase 1 (2019–2030) and improvements from North Little Cottonwood Road to Alta in Phase 2 (2031–2040). Neither the gondola alternatives nor the Cog Rail Alternative are included in the RTP; however, these are alternatives to constructing a third lane on S.R. 210 in Little Cottonwood Canyon. Potential partial construction by alternative could include the following:



- Enhanced Bus Service Alternative. UDOT could start with initial smaller mobility hubs and fewer
 buses and build the bus service as ridership demand increases with population growth. Snow sheds
 would be implemented based on construction funding. Wasatch Boulevard improvements, and
 trailhead improvements would be implemented based on construction funding.
- Enhanced Bus Service in Peak-period Shoulder Lane Alternative. UDOT could start with initial
 smaller mobility hubs and fewer buses and build the bus service as ridership demand increases with
 population growth. Construction of the peak-period shoulder lanes could be delayed until the bus
 service is slowed by congestion on S.R. 210. Snow sheds would be implemented based on
 construction funding.
- Gondola Alternative A (Starting at Canyon Entrance). Initial construction would require the
 complete gondola system. UDOT could start with initial smaller mobility hubs and fewer buses and
 build the bus service as ridership demand increases. Snow sheds improvements would be
 implemented based on construction funding. Overall construction phasing could be similar to that for
 Gondola Alternative B.
- Gondola Alternative B (Starting at La Caille). Initial construction would require the complete
 gondola system and a 2,500-space parking garage at the gondola base station at La Caille. Snow
 sheds could be implemented based on construction funding.
 - UDOT has identified Gondola Alternative B as its preferred alternative. UDOT's preferred alternative includes a phasing plan for Gondola Alternative B that would provide bus service from the mobility hubs until gondola funding is obtained and construction is completed. See Section S.9, Which primary and sub-alternatives does UDOT prefer?, regarding how Gondola Alternative B would be implemented.
- Cog Rail Alternative (Starting at La Caille). Construction would require the complete cog rail system and a 2,500-space parking garage at the cog rail base station at La Caille. Snow sheds would be implemented based on construction funding. Initial construction could start with a bus system similar to described under Gondola Alternative B.
- Wasatch Boulevard Five-lane Alternative. UDOT also plans to phase the construction of the Wasatch Boulevard Five-lane Alternative. With the phased approach, UDOT would first construct the Imbalanced-lane Alternative but would purchase the right of way to accommodate the Five-lane Alternative in the future. The extra right of way would be maintained as open space on the east side of S.R. 210 between the travel lane and multi-use trail until the additional northbound lane is needed. UDOT would construct the additional northbound lane when the level of service on the roadway and/or intersections reaches LOS E or greater. According to the current traffic analysis, this might not occur until after 2050.



S.12 What controversial issues were identified during the EIS process?

The issues listed and discussed in this section are not the only issues in the EIS that might have an element of controversy, and UDOT has attempted to give appropriate consideration to all issues raised by the public and agencies.

Watershed Protection. During the scoping process, the development of the purpose and need and alternatives, and the development and release of the Draft EIS, UDOT received comments from members of the public as well as the Salt Lake City Department of Public Utilities that any action in Little Cottonwood Canyon could degrade the watershed in the canyon. This watershed is one of the main sources of water for Salt Lake City and some surrounding communities. To address these concerns, UDOT held monthly meetings with the Department to better understand the issues related to watershed protection and develop methods to analyze the impacts from the action alternatives. UDOT will continue to work with the Department to resolve concerns through the remainder of the NEPA and decision-making process and during project implementation and has committed to monitoring and mitigation strategies to further minimize the risk of impacts to the watershed.

Visitor Capacity Analysis. UDOT received numerous comments that a visitor capacity analysis should be conducted to determine how many recreation users can be supported by the natural resources in Little Cottonwood Canyon before the environment and the recreation experience are degraded. The USDA Forest Service has the authority to regulate occupancy and use of National Forest System lands under the Organic Act of 1897 (16 USC Section 551) and other applicable laws. Through implementation of forest plans, the Forest Service closely monitors the use levels of National Forest System lands to preserve forest resources and protect wilderness characteristics. The Forest Service acknowledges that, in the future, management might be needed to limit resource impacts from user visitation in Little Cottonwood Canyon. Specific visitor capacities are not being considered by the USDA Forest Service at this time. This EIS provides estimates of increased recreation use potentially related to the alternatives, where practicable and appropriate.

Focus on Roadway Construction. Some commenters stated that the projects' purpose and need statement was too narrowly focused and would result in alternatives that lead only to road construction in Little Cottonwood Canyon. UDOT's purpose for the S.R. 210 Project is reflected in one primary objective for S.R. 210: to substantially improve safety, reliability, and mobility on S.R. 210 from Fort Union Boulevard through the town of Alta for all users on S.R. 210. UDOT believes that this purpose is not so narrowly focused that it would result in road construction only on S.R. 210 in Little Cottonwood Canyon. The purpose is broad enough that many of the action alternatives being considered include only transit (gondola, rail, and/or bus) and do not require any roadway improvements related to private vehicles.

Widening Wasatch Boulevard. Some citizens of Cottonwood Heights commented that UDOT should consider alternatives that would not widen Wasatch Boulevard and that the speed limit on that road should be reduced from the current 50 miles per hour. As stated in Chapter 2, *Alternatives*, of this EIS, UDOT did evaluate alternatives that did not consider widening Wasatch Boulevard, including a transit-only alternative. However, based on the analysis, UDOT concluded that additional roadway lanes would be required on Wasatch Boulevard in order to meet the project purpose. UDOT also met with representatives from Cottonwood Heights City and residents regarding reducing the speed limit on Wasatch Boulevard. Speed limits are normally evaluated outside an EIS process because it is an operational consideration that UDOT can change without an environmental document. Typically, on state roads, UDOT conducts an evaluation of



speed that is based on the 85th-percentile speed (the speed at which 85% of the traffic drives) while also considering the road surface, shoulders, sight distance, adjacent development, pedestrian activity, and crash data. UDOT is currently evaluating the speed limit on Wasatch Boulevard and is taking these factors into consideration.

Impacts to Climbing Boulders in Little Cottonwood Canyon. As part of the comments on the Draft EIS, UDOT received numerous comments regarding potential impacts to climbing boulders and that the climbing areas should be considered a Section 4(f) resource. After the Draft EIS was released, UDOT revised its Section 4(f) evaluation in coordination with the USDA Forest Service, with the primary differences being that the Alpenbock Loop Trail, the Grit Mill Trailhead, and the area between the two are evaluated as a single Section 4(f) resource and recreation resource referred to as Alpenbock Loop and Grit Mill Climbing Opportunities. By combining the two areas into a single resource, UDOT considered the comments from the public that some of the climbing boulders should be considered Section 4(f) resources. In addition, after the Draft EIS was released, UDOT coordinated with the Salt Lake Climbers Alliance to further refine and evaluate impacts to climbing areas in the Final EIS.

What is Section 4(f)?

Section 4(f) is an element of law and U.S. Department of Transportation regulation that requires a project to avoid the use of eligible or potentially eligible historic properties and significant publicly owned parks, recreation areas, and wildlife or waterfowl refuges unless there is no feasible and prudent alternative to such use or unless the use would have a *de minimis* impact. For more information, see Chapter 26, *Section 4(f) and Section 6(f) Evaluation*.

Visual Impacts from the Gondola Alternatives. As part of the

comments on the Draft EIS, UDOT received numerous comments that the gondola alternatives' towers and cabins would degrade the visual character of Little Cottonwood Canyon and reduce the quality of the recreation experience. Recreation users such as hikers and climbers commented that the gondola alternatives would service only ski resort users while reducing the quality of the recreation experience for other canyon users.

For more information regarding impacts to climbing boulders and the visual impacts of the gondola alternatives, see Section S.15, What notable refinements were made to the primary alternatives or new information provided between the Draft and Final EISs?

S.13 Are there any major unresolved issues?

The following major unresolved issues among the cooperating agencies are related to construction and operation of the project's action alternatives.

The Salt Lake City Department of Public Utilities in general had concerns about the alternatives that require construction in Little Cottonwood Canyon, specifically the Enhanced Bus Service in Peak-period Shoulder Lane Alternative, the gondola alternatives, and the Cog Rail Alternative. These concerns included impacts to the watershed in the canyon, recreation resources, biological resources, and environmental justice communities. The Department also had concerns regarding the impacts of the avalanche mitigation alternatives and trailhead parking alternatives on the watershed. UDOT worked with the Department to develop the water quality model used in this EIS. In addition, UDOT held monthly meetings to listen to and address the Department's concerns. UDOT will continue to work with the Department to resolve concerns through the remainder of the NEPA and decision-making processes and during project implementation and



has committed to monitoring and mitigation strategies to further minimize the risks of impacts to the watershed.

S.14 What additional federal actions might be required if the selected alternative is built?

The following federal actions might be required to build the selected alternative:

- Clean Water Act Nationwide Permit 14 for Linear Transportation Projects (U.S. Army Corps of Engineers)
- Federal Emergency Management Floodplain Review (Federal Emergency Management Agency)
- Federal Land Right-of-way Transfer (Federal Highway Administration and USDA Forest Service)
- Easement and/or Special-use Permit (USDA Forest Service)
- Forest Plan Amendment (USDA Forest Service)
- Notice of Proposed Construction or Alteration (Federal Aviation Administration gondola alternatives)
- Project-level Air Quality Conformity Determination (Federal Highway Administration)
- Contract for Removal of Merchantable Timber (USDA Forest Service)
- Permit Authorization for Removal of Forest Product Rock, Gravel, and Other Resources (USDA Forest Service)
- Federal Highway Administration tolling authorization under 23 USC Section 129

S.15 What notable refinements were made to the primary alternatives or new information provided between the Draft and Final EISs?

After release of the Draft EIS, UDOT made refinements to the enhanced bus service alternatives, Gondola Alternative B (Starting at La Caille), and the Cog Rail Alternative. UDOT determined that these modifications did not entail new or different significant impacts requiring a Supplemental Draft EIS. For more information, see Section 2.2.6.4, *Other Alternative Refinements Considered as Part of the Final EIS*, in Chapter 2, *Alternatives*. The primary changes are described below.

- **Enhanced Bus Service Alternatives.** UDOT updated the locations of the bus stops at the Snowbird and Alta resorts. The Snowbird bus stop would be located at Entry 1 near the Creekside Café and Grill building, and the Alta bus stop would be located on the south side of S.R. 210 between the Alta Lodge and Alta's Rustler Lodge at the same location as the existing uphill bus stop.
- Gondola Alternative B (Starting at La Caille) and Cog Rail Alternative. To improve travel times
 and user convenience, UDOT increased the number of parking spaces at the gondola and cog rail
 base stations from 1,500 to 2,500. With the additional parking spaces, there would be no need for
 mobility hubs at the gravel pit or at 9400 South and Highland Drive. All users would drive directly to
 the base station without needing to take a bus from a mobility hub. To facilitate better traffic



movement to the 2,500-space parking structure, UDOT also added a new one-way access road from Wasatch Boulevard to the design after the Draft EIS was released.

UDOT also considered updated and new information including a historic district and a dispersed climbing resources in Little Cottonwood Canyon. The following paragraphs summarize the new and updated information since the release of the Draft EIS.

- Consideration of a Historic Climbing District. Commenters to the Draft EIS stated that UDOT should consider the climbing area on the north side of S.R. 210 at the entrance of Little Cottonwood Canyon a historic resource. After the release of the Draft EIS, UDOT, in consultation with the USDA Forest Service and the Utah State Historic Preservation Office (SHPO), evaluated the Little Cottonwood Canyon Climbing Area Historic District and determined the area to be eligible for inclusion in the National Register of Historic Places (NRHP). None of the primary alternatives or sub-alternatives would result in physical impacts to areas within the historic boundary. For more information, see Chapter 15, Cultural Resources; Chapter 26, Section 4(f) and Section 6(f) Evaluation; Section 32.26, Section 4(f) and Section 6(f) Evaluation, in Chapter 32, Response to Comments; and Appendix 32D, Section 4(f) No Constructive Use Determination.
- Dispersed Recreation Resources. After the Draft EIS was released, the USDA Forest Service determined that it would be appropriate to evaluate the Alpenbock Loop Trail and Grit Mill Trailhead as a combined recreation property, and this area is considered a Section 4(f) property. Individual cliffs, boulders, groups of boulders, bouldering problems, and/or vertical climbing routes are contributing elements to the overall significance of the recreational climbing opportunities in the area, but they do not have a corresponding level of significance and are not essential features when assessed individually. See Appendix 26A, USDA Forest Service Letter Regarding Section 4(f) Determination for Climbing Boulders. The Enhanced Bus Service Alternative would not impact this area. UDOT determined that the Enhanced Bus Service in Peak-period Shoulder Lane Alternative and the gondola alternatives would result in de minimis impacts. Because of the large number of boulders impacted and the anticipated difficulty associated with relocating them, the Cog Rail Alternative would have a greater-than-de minimis impact to the Alpenbock Loop Trail and Grit Mill Trailhead. UDOT will seek to avoid, minimize, and mitigate impacts to boulders. During construction, UDOT will evaluate whether any of the impacted boulders could be relocated within the area. For the USDA Forest Service's concurrence with UDOT's determinations, see Section 26.5, Use of Section 4(f) Resources, in Chapter 26, Section 4(f) and Section 6(f) Evaluation, and Appendix 26B, De Minimis Correspondence.
- Section 4(f) Resources Use Determinations and Concurrence. Two Section 4(f) properties would have uses with greater–than–de minimis impacts: the China Wall (Site 42SL419) with the avalanche mitigation sub-alternatives and the Alpenbock Loop and Grit Mill Climbing Opportunities with the Cog Rail Alternative. The enhanced bus service alternatives and gondola alternatives would all have uses with de minimis impacts to all other Section 4(f) resources. See Appendix 26B, De Minimis Correspondence, for updated correspondence with Cottonwood Heights City, Salt Lake County, the Town of Alta, and the USDA Forest Service regarding the Section 4(f) resources within their jurisdictions.
- Section 4(f) Resources Constructive Use Determinations. Based on public and agency comments, UDOT updated the constructive use determinations for a Section 4(f) park (Alta Town



Park) and recreation resources (Temple Quarry Nature Trail, Tanners Flat Campground, and Bonneville Shoreline Trail) for the Final EIS. A constructive use occurs when there are no direct impacts, but the proximity impacts of a project are so severe that they result in a substantial impairment to the property's activities, features, or attributes that qualify the property for protection under Section 4(f) regulations. UDOT's analysis focused on noise, visual, access, and vibration impacts to these sites. No constructive use of any Section 4(f) resources would occur with any of the S.R. 210 Project alternatives. See Section 26.5, *Use of Section 4(f) Resources*, in Chapter 26, *Section 4(f) and 6(f) Evaluation*, Appendix 32D, *Section 4(f) – No Constructive Use Determination*.

- Visual Resources. Given the level of public interest in the visual impacts of the gondola alternatives, UDOT prepared additional visual simulations for two of the key observation points (KOP 6 and KOP 20). These additional simulations are provided in Appendix 17A, Key Observation Points for the Enhanced Bus Service and Gondola Alternatives, of this Final EIS. UDOT also prepared visual simulations from areas that were not designated as KOPs but that provide additional vantage points from which the gondola facilities would be conspicuous. These simulations are provided in Appendix 32E, Gondola Towers Visual Simulations. This additional analysis did not change the conclusion from the Draft EIS that the gondola elements would be visually dominant from many viewpoints in the study area and would have the highest visual impact among the alternatives. See Chapter 17, Visual Resources.
- Consideration of Climate Variability. UDOT received several comments on the Draft EIS stating that climate change will diminish the need for transportation solutions in the future. UDOT reviewed recent publications regarding snowpack forecasts under different climate models. The newest references did not change UDOT's general findings that climate change effects should not materially affect the S.R. 210 Project's need or alternatives. See Appendix B, Little Cottonwood Alternatives and Climate Change, of Appendix 2A, Draft Alternatives Development and Screening Report June 8, 2020, of the Final EIS.

S.16 What happens next?

S.16.1 Utah Department of Transportation

After the release of this Final EIS and the announcement in the Federal Register, there will be a minimum 45-day public review and comment period in which UDOT will accept comments. UDOT has determined that issuing the Final EIS as a separate document from the Record of Decision could help to resolve some of the comments provided on the Final EIS during the public review period. For example, the opportunity to review additional comments submitted after the Final EIS is released could help UDOT develop additional mitigation commitments that could be included in the Record of Decision to address remaining concerns. In addition, the review period would allow the public to review refinements made to the primary alternatives and the preferred alternative and new and updated information generated between the release of the Draft and Final EISs.

After this review and comment period, UDOT will consider all comments received on this Final EIS, the analysis in this Final EIS, and the project file in preparing the Record of Decision for the S.R. 210 Project. The Record of Decision will explain the reasons for the project decision, summarize any mitigation measures that will be incorporated in the project, and document any Section 4(f) approval.



In addition, the Record of Decision will include any new substantive comments received on the EIS that were not addressed in this Final EIS and will provide responses to those comments when appropriate in the Record of Decision.

After all project approvals are received, UDOT can proceed toward implementation.

S.16.2 U.S. Department of Agriculture Forest Service

For the S.R. 210 Project, if FHWA determines that 23 USC Section 317 would not apply to a specific alternative or project component proposed to be located on National Forest System (NFS) lands, UDOT would obtain a special-use authorization (for example, easement or special-use permit) from the USDA Forest Service under 36 Code of Federal Regulations Part 251 for that alternative or component.

If the proposed use is not consistent with the 2003 Revised Forest Plan: Wasatch-Cache National Forest, a Forest Plan amendment would also be required. The easement or special-use authorization would preserve other authorized uses that already exist in the areas of the improvements on NFS land. FHWA appropriations under 23 USC Section 317 would consist of a nonexclusive easement across NFS lands for "highway purposes,"

What is Section 317?

Under 23 USC Section 317,
Appropriation for Highway
Purposes of Lands or Interests in
Lands Owned by the United
States, FHWA is authorized
under certain conditions to cause
the transfer of highway
easements over federal land to
state transportation departments
such as UDOT.

with the USDA Forest Service retaining jurisdiction over all other uses not incompatible with the authorized highway use.

Based on the analysis documented in this EIS, the Responsible Official for the Forest Service, the Forest Supervisor for the Wasatch-Cache National Forest, will issue a separate Record of Decision to document its decision on the selected alternative. In addition, the Forest Service's Record of Decision would also document whether to issue a special-use authorization and *Forest Plan* amendment with respect to transportation facilities on NFS lands. Some or all of the following steps could occur if a Forest Service Record of Decision is required:

- The FHWA 23 USC Section 317 determination will establish the Forest Service decision process, and therefore a Forest Service Record of Decision may not be issued until FHWA issues its determination under 23 USC Section 317.
- The Forest Service Record of Decision may be issued simultaneously with or after the UDOT Record of Decision pending the timing of FHWA's 23 USC Section 317 determination.
- A Forest Service Draft Record of Decision would be subject to the objection process at 36 CFR
 Part 218, Subparts A and B. Objections filed in accordance with 36 CFR Part 218 are applicable only
 to the Forest Service decision (that is, not UDOT's decision).